

ABSTRACT

5        The invention relates to an estimate of the seismic illumination fold  $(x, p)$  in the migrated 3D domain at an image point  $x$ , for a dip of vector  $p$  characterized in that the illumination fold  $I(z, p; s, r)$  is estimated for each (source 10  $s$ , receiver  $r$ ) pair in the seismic survey, by applying the following steps: - determination of the reflection travel time  $t_r$  ( $x_r(p) ; s . r$ ) from the source  $s$  to the specular reflection point  $z$ , on the plane reflector passing through the image point  $x$  and perpendicular to the dip vector  $p$ , and then return to the 15 reflector  $r$ ; starting from the diffraction travel time  $t_d$  ( $.z; s . r$ ) from the source to the said image point  $x$  and then return to the reflector  $r$ ; - incrementing the said illumination fold  $I(x, p; s, r)$  related to the said (source  $s$ , receiver  $r$ ) pair as a function of the difference between the diffraction travel time  $t_d$  20 ( $x; s, r$ ) and the reflection travel time  $t_r(x_r(p) is rr)$ .